ALBA 35

Four-valve, two-waveband, all-dry battery superhet with separate HT and LT dry batteries. Made by A. J. Balcombe & Co., Ltd., 52-58, Tabernacle Street, London, EC2.

MW and LW frame aerials are connected in series across the VC1 section of the tuning condenser and feed signals direct to the control grid of V1, the heptode frequency-changer.

The oscillator section of this valve has tuned grid circuits L3 (MW) and L4 (LW), tuned by VC2 section of the gang condenser. R2 and C3 are the grid leak and condenser. Reaction coils in the anode circuit are L5 (MW) and L6 (LW) with R3 and R4 the oscillator anode voltage dropping resistances for MW and LW bands respectively.

The screening grid of V1 is fed from the HT line through R1, which is decoupled by C2.

The IF signal is transferred to V2, the IF amplifier valve, by the first intermediate frequency transformer, comprising L7-T4, L8-T3.

A second intermediate frequency transformer L9-T2, and L10-T1, couples the signal from V2 to the diode of the single diode triode valve V3. The signal load is the volume control R7, while R6 and C5 provide the IF filtering.

AVC is obtained from the voltages produced across the resistance network R6 and R7, and is applied to V1 and V2 via C4 as a filter condenser and R5 as a decoupling resistance with C1.

The LF signal developed across R7 is picked off by the slider of the volume control and fed via C6 to the grid of V3 with R11 as the grid to filament resistance. The LF signal is resistance-capacity coupled by R8 and C7 to the grid of the output pentode V4.

RESISTANCES

R	Ohms	R	Ohms
1	50,000	7	2 meg
2	250,000	8	1 meg
3	1,000	9	2 meg
4	5,000	10	800
5	2 meg	11	10 meg
6	.1 meg	12	.5 meg

CONDENSERS

C	Mfds	C	Mfds
1	.05	6	.002
2	.1	7	.006
3	300 mmfd	8	001
4	100 mmfd	9	8
5	100 mmfd		

WINDINGS

L	Ohms	L	Ohms
1	Very low	8	10
2	15	9	10
3	Very low	10	10
4	Very low	11	500
5	34	12	Very low
6	66	13	3
7	10		

R9 is the grid to filament resistance for V4 and is connected to the extreme HT negative end of the chassis line so that R10 provides automatic bias for V4.

The loudspeaker coupling transformer has its primary shunted by C8 for permanent tone correction, while C9 decouples the HT battery.

The standard batteries are two 45v HT units, GEC No. BB390 and one LT unit, GEC No. 389. These are fitted with non-interchangeable sockets. The total HT consumption is 9.8 ma, LT, .25 amp.

GANGING

IF Circuits.—Inject a 470 kc signal into the grid of V1 and adjust T1, T2, T3 and T4 for maximum output.

MW Band.—Couple the service oscillator to the receiver by a short piece of wire round the frame aerial. Set the receiver tuning pointer to the 250-m calibration and inject a signal of this wavelength into the frame aerial. Adjust T5 to being calibration into line.

Adjust T6 for maximum output.

Inject and tune-in a signal of 500 metres and adjust T7 for maximum output while rocking gang condenser.

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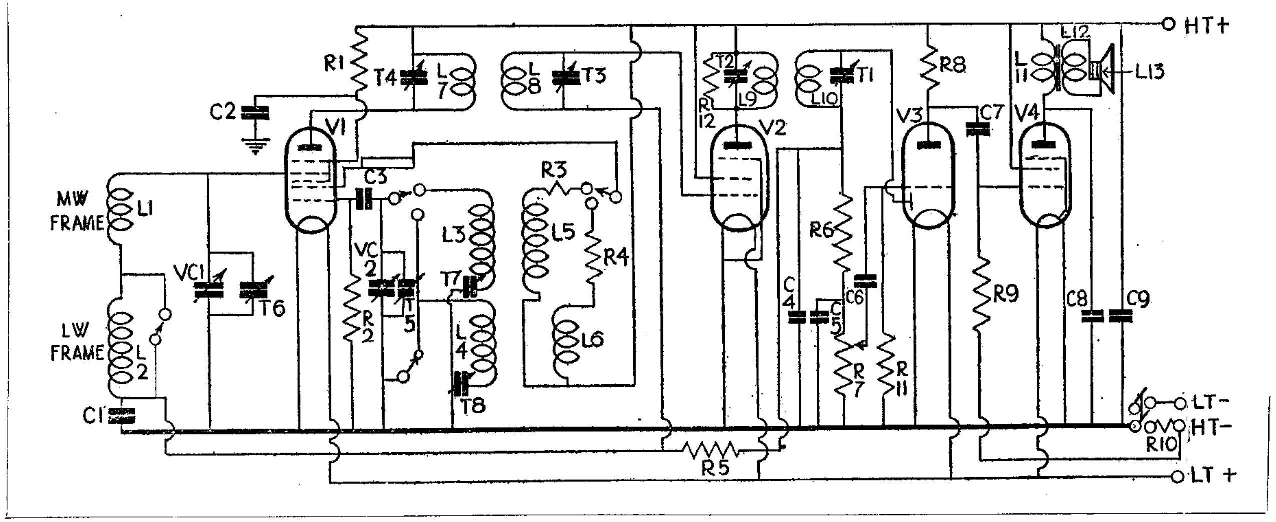
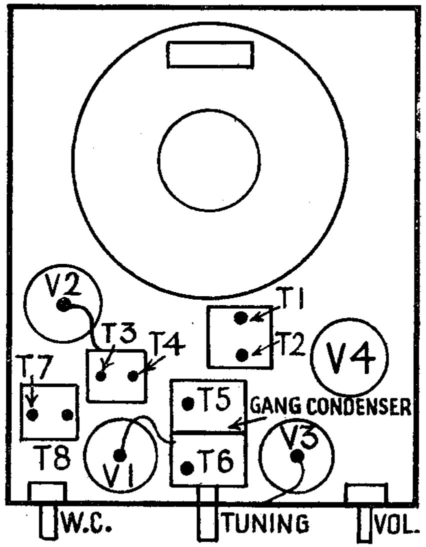
VALVE READINGS

V	Type	Electrode	Volts	Ma
1	FC141	Anode	90	.9 total
		Aux grid	75	
		Osc anode		
2	SP141	Anode	90	.65 total
		Aux grid	90	
3	H141D	Anode	40*	.05
4	PEN141	Anode	90	8.2 total
		Aux grid	90	

* Actual volts. The high anode resistance prevents a practical reading being obtained.





The layout above shows the trimmer locations on the Alba 35 chassis, and, left, the circuit of this all-dry portable.

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Repeat both operations until no further improvement can be obtained.

LW Band.—Inject and tune-in a signal of 1,900 metres and adjust T8 for maximum output while rocking gang.